

PCT

WORLD INTELLECTUAL PROPERTY ORGANIZATION  
International Bureau

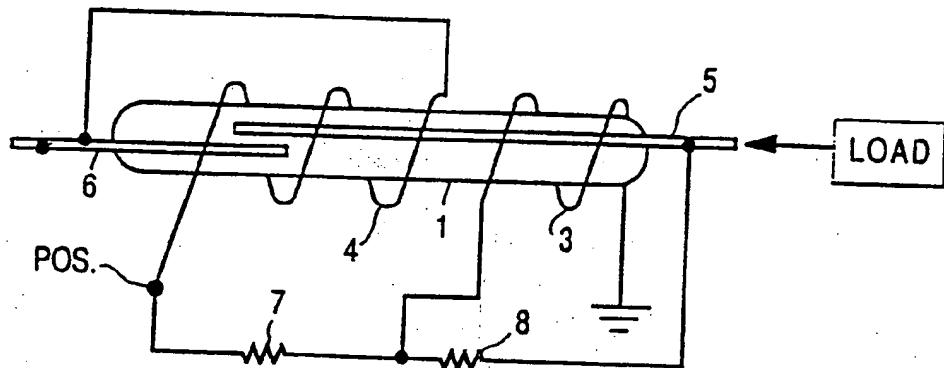


INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

|  |    |   |
|--|----|---|
| (51) International Patent Classification 5 : | A1 | (11) International Publication Number: WO 90/10968                |
| H02H 3/20, H01H 1/66                         |    | (43) International Publication Date: 20 September 1990 (20.09.90) |

|   |   |
|---|---|
| (21) International Application Number: PCT/US90/01223   | (81) Designated States: AT (European patent), BE (European patent), CA, CH (European patent), DE (European patent), DK (European patent), ES (European patent), FR (European patent), GB (European patent), IT (European patent), JP, KR, LU (European patent), NL (European patent), SE (European patent). |
| (22) International Filing Date: 6 March 1990 (06.03.90)   |   |
| (30) Priority data:<br>320,279 6 March 1989 (06.03.89) US<br>431,542 3 November 1989 (03.11.89) US  |   |
| (71) Applicant: INRESCO, INC. [US/US]; 2411 Atlantic Avenue, Manasquan, NJ 08735 (US).  | Published<br><i>With international search report.<br/>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i>  |
| (72) Inventors: MULSHINE, James, P.; 13 Danby Place, Point Pleasant, NJ 08742 (US). SAKATOS, Michael, J.; 4 Skyview Road, Union, NJ 07083 (US). |   |
| (74) Agent: SKOLNIK, Robert, M.; 353 Monmouth Road, P.O. Box 22, West Long Branch, NJ 07764-0022 (US).  |   |

(54) Title: AUTOMATICALLY RESETTING CIRCUIT PROTECTOR



(57) Abstract

Circuit protectors employing a reed switch (1) or electro-mechanical switching device (20, 21), has a primary coil (4) connected in series with it. Two resistors (7, 8) are connected across the switch/device and series connected primary coil (4). A secondary coil (3) is connected across the load to the juncture of the two resistors. The primary and secondary coils are concentric windings. The switch/device is open when there is no power supplied. Thus, the two resistors and the secondary coil are connected to the load. The values of the two resistors and the secondary coil are chosen so that the coil current increases when the power supply is turned ON. When the load reaches approximately 80% of its full level, the magnetic flux generated by a secondary coil winding is sufficient to cause the switch or device contacts to close. As the load reaches its normal state, the secondary coil continues to hold the contacts closed. In simplified embodiments, either the reed switch (1) or electro-mechanical switching device (20, 21), has a primary coil (4, 13) connected in series with the switch. A secondary coil (3, 12) is connected across the switch. The primary and secondary coils are concentric windings. A resistor (8, 14) is connected across the secondary coil (3, 12). The resistor and the load act as a voltage divider so that the reset point of the protector is controlled as a function of the resistor by the coil current increasing when the power supply is turned ON.

BEST AVAILABLE COPY